

presented by open entry against the possibility that this spectrum may be used to forestall rather than promote competition. Open eligibility may delay or eliminate an opportunity to increase the number of competitors in the local exchange telephony and multichannel video programming markets. On the other hand, a bar on eligibility could prevent LECs and cable operators from using LMDS to compete against each other more effectively and rapidly or to provide new services not now offered by any firm. It also is possible that by restricting eligibility we prevent some potential providers from realizing efficiencies of scale and scope that could be realized if, for example, a LEC could use LMDS to expand the area it serves and to expand the range of services it offers. As a deregulatory principle, this Commission does not seek to interfere in or distort decisions based on sound business judgment by imposing unnecessary regulation. We seek comment on these issues.

126. We ask parties to comment with specificity on projected uses of LMDS spectrum, including the degree to which LMDS is uniquely suited to entry into the local exchange and multichannel video programming markets. Do LMDS licenses represent a unique and necessary resource for de-concentrating the market power of incumbent LECs and cable operators? If an LMDS license is such a resource, can it have a deconcentrating effect if it is held by an incumbent LEC or cable operator, given the range of services that can be provided using LMDS? For example, would a LEC's use of an LMDS license to provide video services reduce the market power of the incumbent cable operator? Are there other realistic means of entry into these markets? In addressing this point, we ask parties to discuss other realistic means of entry in terms of (1) the availability of similar spectrum-based services; (2) technological factors; (3) economic cost; and (4) timing.

127. We also ask for comment on whether there are any inherent cost advantages possessed by incumbent LECs or cable operators in holding LMDS licenses to provide service within their geographic service areas. Are there any economies of scope, or other efficiencies, such as efficiencies in billing and marketing of the services? Are any of these efficiencies unique to LMDS or could a LEC or cable operator realize them using above 40 GHz band, MMDS, OVS or other wireless or wireline facilities? Are there cost advantages in use of LMDS spectrum outside the markets served by incumbents? Can these cost advantages be quantified?

128. Are there any other advantages that incumbent LECs and cable operators have in providing LMDS service? For example, does their size, experience in that telecommunications market or financial status make incumbent LECs, or more specifically the RBOCs, uniquely positioned to be strong LMDS providers? If so, will limiting incumbent LEC and cable operators from bidding on LMDS licenses only in their current service areas discourage investment in LMDS or the development of LMDS technology? Excluding incumbent LECs and cable operators, are there a sufficient number of other providers with the necessary resources and expertise to construct and operate LMDS systems? Will incumbent eligibility restrictions have any negative effects on competition in the multichannel video programming and local exchange markets -- for example by making it more difficult for incumbent LECs to compete with cable operators for the provision of video services?

129. We also ask for comment on whether an incumbent LEC or cable operator offering LMDS services within its respective geographic service area would be likely to offer it at a higher price than new entrants. Would this depend on whether the LMDS service offered by the incumbents is substitutable for the services they currently offer? Commenters are also asked to address whether it would be more cost-effective for incumbents to acquire LMDS spectrum to supplement their own existing services rather than to face immediate competition by allowing LMDS spectrum to be acquired by a potential competitor.

130. Finally, we seek comment on how the auction process can be expected to influence the concerns prompting our consideration of incumbent eligibility. Will an auction ensure the highest and best use of the spectrum -- even if an incumbent wins the license? Or, is there an economic incentive for an incumbent to bid successfully at auction and to warehouse the spectrum? Or divert it to less competitive uses? Does this economic incentive exist when the spectrum can be used for services other than those provided by the incumbent? In any case, would payment of a winning auction bid and the cost of compliance with the build-out rules proposed in the *Second Further Notice* prove a sufficient check against such warehousing?

131. If we determine that the benefits of open entry are outweighed by our desire to encourage alternative sources of competition, should we adopt any restrictions, and if so, how should they be structured? One option is to prohibit incumbent LECs and cable companies from bidding on or acquiring licenses, each within its geographic service area. Alternatively, we could limit incumbent LECs and cable companies' use of the LMDS spectrum. For example, LEC participation in LMDS could be limited to the provision of no more than a certain percentage of non-video programming, and cable participation in LMDS could be limited to the provision of no more than a certain percentage of video services. The advantage to this approach is that it is narrower than a complete eligibility restriction, and it would allow incumbent providers to use the spectrum to provide competing services, as well as supplemental incumbent services. The disadvantage to this approach is that it may impair the deployment of LMDS as a market-driven flexible broadband service and is inconsistent with the Commission's flexible spectrum policy. We seek comment on these and any other alternatives.

132. If we were to adopt any restrictions on incumbent cable and LEC participation, we need to define "incumbent" since LATA lines and cable franchise areas are not coincident with BTA boundaries. One possibility would be to use the cellular/PCS cross-ownership rule, which implicates similar competitive concerns. Consistent with this rule, an incumbent LEC or cable operator would be considered "in-region" if 20 percent or more of the population of a BTA is within a LEC's telephone service area or a cable company's franchised service area. We ask for comment on this option and on any alternative. We also seek comment on whether the same definition should be applied to both types of incumbents.

133. We also seek comment on what should constitute an attributable interest in an incumbent LEC or cable operator. In the past, the Commission has used several different

formulations of attribution in different contexts. For these purposes, we propose to consider a 10 percent or more interest, when factored through a multiplier, to be attributable. We also propose to consider a 10 percent or more interest in an affiliate of an incumbent, when factored through a multiplier, to be considered attributable. This attribution level tracks Section 652 of the 1996 Act, 47 U.S.C. § 572, and it has the same goals as we do in this proceeding.

134. In addition, if we limit the eligibility of incumbent LECs and cable operators, we seek comment on how these restrictions should be addressed in the context of our proposal in the *Third NPRM* to allow partitioning and disaggregation. We request comment on whether competitive harm would result from a LMDS licensee disaggregating its license and assigning any excess spectrum to an incumbent LEC or cable operator within their geographic service areas. Similarly, we request comment on whether any competitive harm would result from a LMDS licensee partitioning some of its service area to an incumbent LEC or MSO within their geographic service area.

135. Finally, if we were to propose any restrictions, we believe that they should continue only until there is increased competition in the video and telephony markets. In the cable context, Section 623(l) of the Communications Act sets forth a four pronged test for determining when a cable operator faces effective competition. We seek comment on whether this effective competition test is a reliable indicator of appropriate levels of multichannel video programming competition for these purposes. We focus especially on Section 623 L(1), which can be relatively easy to satisfy in rural areas. For LECs, there is no standard test for effective competition in the local exchange market. The "Competitive Checklist," set forth in Section 271(c)(2)(B) of the 1996 Act,²¹² is one part of the mechanism used to determine when the Regional Bell Operating Companies (RBOCs) may enter the in-region long distance market. We ask for comment on whether the Competitive Checklist or all the prerequisites for BOC in-region entry serves as a reliable indicator of appropriate levels of local exchange competition for determining when LECs should be allowed to hold LMDS licenses. In addition, since the "Competitive Checklist" does not apply to LECs which are not RBOCs, we seek comment on how it could be used with other LECs. We also seek comment on alternative sunset provision. For example, we could limit eligibility for such entities to a fixed period of time (such as, 3 or 5 years) with automatic sunset and optional renewal of these restrictions. We request that commenters provide information on the following questions: what alternative criteria should we use to sunset these restrictions? Should we consider the number of facilities-based competitors? Are there local competitors throughout the service area? If we do not use the "Competitive Checklist", does it suggest factors that we should incorporate into any sunset criteria we may adopt?

136. Because we plan to begin the LMDS licensing process this year, we realize that the imposition of any eligibility restrictions now, even if they sunset at some future point,

²¹² 47 C.F.R. §271(c)(2)(B).

may effectively preclude incumbent LECs and cable operators from participation in that initial licensing process. However, incumbents could offer LMDS services at a future date by acquiring all or part of the LMDS spectrum in a BTA in a post-auction transaction, if we adopt our competitive bidding rules proposed in the *Third NPRM*. We request comment on these issues.

IV. CONCLUSION

137. We conclude that adoption of this *Report & Order* segments the 28 GHz band in a manner designed to allow all proposed services to move forward expeditiously, bringing new innovative services to consumers. Further, we conclude that our proposal to designate additional spectrum at 31 GHz for LMDS serves the public interest by ensuring the greatest technological flexibility in two-way interactive LMDS systems. Finally, we conclude that it is in the public interest to seek additional comment on whether we should adopt eligibility of use restrictions for incumbent LECs and cable operators seeking to obtain LMDS spectrum within their geographical service areas.

VI. PROCEDURAL MATTERS - Regarding *Fourth NPRM*

A. Regulatory Flexibility Act

138. With respect to the *Final Report and Order*, a Final Regulatory Flexibility Analysis is contained in Appendix C.

139. With respect to this *Fourth Notice of Proposed Rule Making*, an Initial Regulatory Flexibility Analysis (IRFA) is also contained in Appendix C. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared an IRFA of the expected impact on small entities of the proposals suggested in this document. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments on the *Fourth Notice of Proposed Rulemaking*, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Act Analysis. The Secretary shall send a copy of this *Fourth Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act. Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. § 601 et seq. (1981).

B. Ex Parte Rules -- Non-Restricted Proceeding

140. This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted except during the Sunshine Agenda period, provided they are disclosed as provided in Commission rules. See generally 47 C.F.R. §§ 1.1201, 1.1203, and 1.1206(a).

C. Comment Dates

141. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file comments on or before **August 12, 1996**, and reply comments on or before **August 22, 1996**. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus eight copies. You should send comments and reply comments to Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center of the Federal Communications Commission, Room 239, 1919 M Street, N.W., Washington, D.C. 20554.

E. Initial Paperwork Reduction Act of 1995 Analysis

142. This Fourth Notice of Proposed Rulemaking does not contain a proposed or modified information collection.

F. Further Information

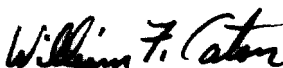
143. For further information concerning the 31 GHz proceeding, contact Bob James at (202) 418-0798 (Wireless Telecommunications Bureau). For further information concerning the eligibility issues, contact Nancy Boocker or Walter D. Strack at (202) 418-1310 (Policy Division, Wireless Telecommunications Bureau).

VII. Ordering Clauses

144. Authority for issuance of this Fourth Notice of Proposed Rulemaking is contained in Sections 4(i), 303(r) and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r) and 309(j).

145. Accordingly, IT IS ORDERED that Part 25 and Part 101 of the Commission's rules are amended as specified in Appendix B, effective sixty (60) days after publication in the Federal Register.

FEDERAL COMMUNICATIONS COMMISSION


William F. Caton
Acting Secretary

Appendix A
List of Parties Filing Comments
CC Docket No. 92-297

Comments: (Filed September 7, 1995)

1. Airtouch Communications, Inc.
2. Alcatel Network Systems, Inc.
3. Ameritech Operating Company
4. Andrew Corporation
5. Association of America's Public Television Stations and Public Broadcasting Service
6. Bell Atlantic
7. BellSouth Corporation, BellSouth Telecommunications, Inc., BellSouth Enterprises, Inc.
8. Boeing Defense & Space Group (VP James P. Nobitt letter to Chairman Reed Hundt)
9. CellularVision
10. Comtech Associates, Inc.
11. Constellation Communications
12. Cox Enterprises Inc., Comcast Corporation, and Jones Intercable, Inc.
13. Digital Microwave Corporation
14. Duncan, Weinbert, Miller & Pembroke, P.C. (for state and local government entities)
15. Dwyre, Douglas (Globalstar)(President L/Q Partnership, L.P., letter to Chairman)
16. Endgate Corporation
17. Entertainment Made Convenient (Emc³) International, Inc.
18. GE American Communication, Inc.
19. GHz Equipment Company, Inc.
20. GTE
21. Harris Corporation-Farion Division
22. Hewlett-Packard Company
23. Hughes Communications Galaxy
24. Lockheed Martin Corporation
25. Loral Aerospace Holdings, Inc.
26. Loral/QUALCOMM Partnership, L.P.
27. M3 Illinois Telecommunications
28. Motorola Satellite Communications, Inc. and Iridium, Inc.
29. National Aeronautics and Space Administration
30. National Cable Television Association, Inc.
31. Northern Telecom
32. NYNEX Corporation
33. Orion Network Systems, Inc.
34. Pacific Telesis Wireless Broadband Services
35. PanAmSat Corporation
36. RioVision, Incorporated
37. Satellite Industry Association
38. Telecommunications Industry Association (+corrigendum)

39. Teledesic Corporation (+correction)
40. Telephone & Data Systems, Inc.
41. Texas Instruments, Inc.
42. Titan Information Systems Corporation
43. TRW Inc.
44. Wireless Cable Association International

Reply Comments (filed October 10, 1995)

1. Bell Atlantic Corporation
2. BellSouth Corp., BellSouth Telecommunications, Inc. & BellSouth Enterprise, .
3. CellularVision
4. ComTech Associates
5. Entertainment Made Convenient (Emc3)
6. GE American Communications, Inc.
7. GHz Equipment Company, Inc.
8. Hughes Communications, Inc.
9. Loral Aerospace Holdings, Inc.
10. Loral/Qualcomm Partnership, L.P.
11. Motorola Satellite Communications, Inc. & Iridium, Inc.
12. NetSat 28 Company, Inc.
13. Nynex Corporation
14. Orion Network Systems, Inc.
15. Pacific Telesis
16. Telecommunications Industry Association
17. Teledesic Corporation
18. Texas Instruments, Inc.
19. TRW Inc.

Appendix B

Rule Amendments to 47 C.F.R. Part 25 and Part 101 of the Commission's rules

Part 25 of the Commission's Rules and Regulations (Chapter I of Title 47 of the Code of Federal Regulations) is amended as follows:

1. Section 25.203 is amended by adding paragraph (h), to read as follows:

§ 25.203

* * * * *

(h) Sites and frequencies for GSO and NGSO earth stations, operating in a frequency band where both have a co-primary allocation, shall be selected to avoid earth station antenna mainlobe-to-satellite antenna mainlobe coupling, between NGSO systems and between NGSO and GSO systems, in order to minimize the possibility of harmful interference between these services.

(1) Prior to filing an earth station application, in bands with co-primary allocations to NGSO and GSO earth stations, the applicant shall coordinate the proposed site and frequency usage with existing earth station licensees and with current earth station authorization applicants.

2. A new Section 25.250 is proposed to read as follows:

§ 25.250 Sharing between NGSO MSS Feeder links Earth Stations in the 19.3 -19.7 GHz and 29.1 - 29.5 GHz Bands

(a) NGSO MSS applicants shall be licensed to operate in the 29.1 - 29.5 GHz band for Earth-to-space transmissions and 19.3-19.7 GHz for space-to-Earth transmissions from feeder link earth station complexes. A "feeder link earth station complex" may include up to three (3) earth station groups, with each earth station group having up to four (4) antennas, located within a radius of 75 km of a given set of geographic coordinates provided by NGSO-MSS licensees or applicants.

(b) Licensees of NGSO MSS feeder link earth stations separated by 800 km or less are required to coordinate their operations, see §25.203. The results of the coordination shall be reported to the Commission.

3. A new Section 25.257 is added to read as follows:

§ 25.257 Special requirements for operations in the band 29.1 - 29.25 GHz

(a) Special requirements for operations in the band 29.1 - 29.25 GHz between NGSO MSS and LMDS:

(1) Non-geostationary mobile satellite service (NGSO MSS) operators shall be licensed to use the 29.1 - 29.25 GHz band for Earth-to-space transmissions from feeder link earth station complexes. A "feeder link earth station complex" may include up to three (3) earth station groups, with each earth station group having up to four (4) antennas, located within a radius of 75 km of a given set of geographic coordinates provided by a NGSO MSS licensee or applicants pursuant to §101.147.

(2) A maximum of seven (7) feeder link earth station complexes in the contiguous United States, Alaska and Hawaii may be placed into operation, in the largest 100 MSAs, in the band 29.1 - 29.25 GHz in accordance with §25.203 and §101.147.

(3) One of the NGSO MSS operators licensed to use the 29.1- 29.25 GHz band may specify geographic coordinates for a maximum of eight feeder link earth station complexes that transmit in the 29.1 - 29.25 GHz band. The other NGSO MSS operator licensed to use the 29.1 - 29.25 GHz band may specify geographic coordinates for a maximum of two feeder link earth station complexes that transmit in the 29.1 - 29.25 GHz band.

(4) Additional NGSO MSS operators may be licensed in this band if the additional NGSO MSS operator shows that its system can share with the existing NGSO MSS systems.

(5) All NGSO MSS operators shall cooperate fully and make reasonable efforts to identify mutually acceptable locations for feeder link earth station complexes. In this connection, any single NGSO MSS operator shall only identify one feeder link earth station complex protection zone in each category identified in §101.147(c)(2) until the other NGSO MSS operator has been given an opportunity to select a location from the same category.

4. A new Section 25.258 is added to read as follows:

§ 25.258 Sharing between NGSO MSS Feeder links Stations and GSO FSS services in the 29.25- 29.5 GHz Bands

(a) Operators of NGSO MSS feeder link earth stations and GSO FSS earth stations in the band 29.25 to 29.5 GHz where both services have a co-primary allocation shall cooperate fully in order to coordinate their systems. During the coordination process both service operators shall exchange the necessary technical parameters required for coordination.

(b) Licensed GSO FSS systems shall, to the maximum extent possible, operate with frequency/polarization selections, in the vicinity of operational or planned NGSO MSS feeder link earth station complexes, that will minimize instances of unacceptable interference to the

GSO FSS space stations.

(c) NGSO MSS satellites operating in this frequency band shall compensate for nodal regression due to the oblate shape of the Earth, and thus maintain constant successive sub-satellite ground tracks on the surface of the Earth.

(d) NGSO MSS systems applying to use the 29.25 - 29.5 GHz band, for feeder link earth station uplink, will have to demonstrate that their system can share with the authorized U.S. GSO/FSS systems operating in this band.

Part 101 of the Commission's Rules and Regulations (Chapter I of Title 47 of the Code of Federal Regulations) is amended as follows:

5. Amend rule section 101.3 by adding new paragraphs, in alphabetical order, to read as follows:

Local Multipoint Distribution Service Hub Station. A fixed point-to-multipoint radio station in a Local Multipoint Service System that provides one-way or two-way communication with Local Multipoint Distribution Service Subscriber Stations.

Local Multipoint Distribution Service System. A fixed point to-multipoint radio system consisting of Local Multipoint Distribution Service Hub Stations and their associated Local Multipoint Distribution Service Subscriber Stations.

Local Multipoint Distribution Service Subscriber Station. Any one of the fixed microwave radio stations located at users' premises, lying within the coverage area of a Local Multipoint Distribution Service Hub Station, capable of receiving one-way communications from or providing two-way communications with the Local Multipoint Distribution Service Hub Station.

Local Multipoint Distribution Service Backbone Link. A point-to-point radio service link in a Local Multipoint Distribution Service System that is used to interconnect Local Multipoint Distribution Service Hub Stations with each other or with the public switched telephone

network.

6. Section 101.109 is amended by revising the Table entry for the band 27,500 MHz to 29,500 MHz line to reads as follows:

§ 101.109 Bandwidth.

* * * * *

Frequency Band Maximum (MHz) Authorized
Bandwidth

27,500 to 28,350 MHz	850 MHz
29,100 to 29,250 MHz	150 MHz

7. Amend rule Section 101.113 by adding new subsection (c) as follows:

§ 101.113 LMDS Single Station EIRP Limit: (c)(1) Transmitter power limitations: Point-to-point stations in the 29.1-29.25 GHz band for the LMDS backbone between LMDS hubs shall be limited to a maximum allowable e.i.r.p. density per carrier of 23 dBW/MHz in any one megahertz in clear air, and may exceed this limit by employment of adaptive power control in cases where link propagation attenuation exceeds the clear air value due to precipitation and only to the extent that the link is impaired.

(c)(2) Hub Transmitter EIRP Spectral Area, Density Limit: LMDS applicants shall demonstrate that, under clear air operating conditions, the maximum aggregate of LMDS transmitting hub stations in a Basic Trading Area in the 29.1-29.25 GHz band will not transmit a co-frequency hub-to-subscriber e.i.r.p. spectral area density in any azimuthal direction in excess of X dBW/(MHz-km²) when averaged over any 4.375 MHz band, where X is defined in Table 1. Individual hub stations may exceed their clear air e.i.r.p.s by employment of adaptive power control in cases where link propagation attenuation exceeds the clear air value and only to the extent that the link is impaired.

(i) The e.i.r.p. aggregate spectral area density is calculated as follows:

$$10\log_{10} 1/A \sum_{i=1}^N p_{igi} \quad \text{dBW/MHz-km}^2$$

where:

N = number of co-frequency hubs in BTA

A = Area of BTA in km²

p_i = spectral power density into antenna of i-th hub (in W/MHz)

g_i = gain of i-th hub antenna at zero degree elevation angle

Each p_i and g_i are in the same 1 MHz within the designated frequency band.

(ii) The climate zones in Table 1 are defined for different geographic locations within the US as shown in Appendix 28 of the ITU Radio Regulations.

Table 1*

Climate Zone	e.i.r.p. Spectral Density (Clear Air) (dBW/MHz-km ²)**
1	-23
2	-25
3,4,5	-26

* LMDS system licensees in two or more BTAs may individually or collectively deviate from the spectral area density computed above by averaging the power over any 200 km by 400 km area, provided that the aggregate interference to the satellite receiver is no greater than if the spectral area density were as specified in Table 1. A showing to the Commission comparing both methods of computation is required and copies shall be served on any affected non-GSO 20/30 GHz MSS providers.

** See Section 21.1007(c)(i) for the population density of the BTA

(c)(3) Hub Transmitter e.i.r.p. Spectral Area Density Limit at Elevation Angles Above the Horizon:

LMDS applicants shall demonstrate that, under clear air operating conditions, the maximum aggregate of LMDS transmitting hub stations in a Basic Trading Area in the 29.1-29.25 GHz band will not transmit a co-frequency hub-to-subscriber e.i.r.p. spectral area density in any azimuthal direction in excess of X dBW/(MHz-km²) when averaged over any 4.375 MHz band where X is defined in Table 2. Individual hub stations may exceed their clear air e.i.r.p.s by employment of adaptive power control in cases where link propagation attenuation exceeds the clear air value and only to the extent that the link is impaired.

(i) The e.i.r.p. aggregate spectral area density is calculated as follows:

$$10 \log_{10} \frac{1}{A} \sum_{i=1}^N \text{e.i.r.p.}(a_i) \text{ dBW/MHz-km}^2$$

where:

N = number of co-frequency hubs in BTA

A= Area of BTA in km²

e.i.r.p. (a_i) = equivalent isotropic radiated spectral power density of the i-th hub (in W/MHz) at elevation angle a

Table 2

Elevation Angle (a)	Relative e.i.r.p. Density (dBW/MHz-km ²)
$0^\circ \leq a \leq 4.0^\circ$	$e.i.r.p.(a) = e.i.r.p.(0^\circ) + 20 \log (\sin \sqrt{x})(1/\sqrt{x})$ where $x = (a + 1)/7.5^\circ$
$4.0^\circ < a \leq 7.7^\circ$	$e.i.r.p.(a) = e.i.r.p.(0^\circ) - 3.85a + 7.7$
$a > 7.7^\circ$	$e.i.r.p.(a) = e.i.r.p.(0^\circ) - 22$

where a is the angle in degrees of elevation above horizon. e.i.r.p.(0°) is the hub e.i.r.p. area density at the horizon used in Section 101.113c(2). The nominal antenna pattern will be used for elevation angles between 0° and 8°, and average levels will be used for angles beyond 8°, where average levels will be calculated by sampling the antenna patterns in each 1° interval between 8° and 90°, dividing by 83.

(ii) LMDS system licensees in two or more BTAs may individually or collectively deviate from the spectral area density computed above by averaging the power over any 200 km by 400 km area, provided that the aggregate interference to the satellite receiver is no greater than if the spectral area density were as specified in Table 1. A showing to the Commission comparing both methods of computation is required and copies shall be served on any affected non-GSO MSS providers.

(c)(4) Power Reduction Techniques: LMDS hub transmitters shall employ methods to reduce average power levels received by non-geostationary mobile satellite receivers, to the extent necessary to comply with SubSections (c)(1) and (c)(2), by employing the methods set forth below:

(i) Alternate Polarizations. LMDS hub transmitters in the LMDS service area may employ both vertical and horizontal linear polarizations such that 50 percent (plus or minus 10 percent) of the hub transmitters shall employ vertical polarization and 50 percent (plus or minus 10 percent) shall employ

horizontal polarization.

(ii) Frequency Interleaving. LMDS hub transmitters in the LMDS service area may employ frequency interleaving such that 50 percent (plus or minus 10 percent) of the hub transmitters shall employ channel center frequencies which are different by one-half the channel bandwidth of the other 50 percent (plus or minus 10 percent) of the hub transmitters.

(iii) Alternative Methods. As alternatives to (i) and (ii) above, LMDS operators may employ such other methods as may be shown to achieve equivalent reductions in average power density received by non-GSO MSS satellite receivers.

8. Rule Section 101.133 is amended by adding subsection (d) to read as follows:

§ 101.133(d)

LMDS Subscriber Transmissions: LMDS licensees shall not operate transmitters from subscriber locations in the 29.1-29.25 GHz band.

9. Amend rule section 101.147 by adding new subsection (x) as follows:

§ 101.147 Frequency Assignments

* * * * *

(x) Special requirements for operations in the band 29.1-29.25 GHz:

(1)(i) LMDS receive stations operating on frequencies in the 29.1- 29.25 GHz band within a radius of 75 nautical miles of the geographic coordinates provided by a non-GSO MSS licensee pursuant to subsections (c)(2) or (c)(3)(i) (the "feeder link earth station complex protection zone") shall accept any interference caused to them by such earth station complexes and shall not claim protection from such earth station complexes.

(ii) LMDS licensees operating on frequencies in the 29.1-29.25 GHz band outside a feeder link earth station complex protection zone shall cooperate fully and make reasonable efforts to resolve technical problems with the non-GSO MSS licensee to the extent that transmissions from the non-GSO MSS operator's feeder link earth station complex interfere with an LMDS receive station.

(2) No more than 15 days after the release of a public notice announcing the commencement

of LMDS auctions, feeder link earth station complexes to be licensed pursuant to Section 25.257 shall be specified by a set of geographic coordinates in accordance with the following requirements: no feeder link earth station complex may be located in the top eight (8) metropolitan statistical areas ("MSAs"), ranked by population, as defined by the Office of Management and Budget as of June 1993, using estimated populations as of December 1992; two (2) complexes may be located in MSAs 9 through 25, one of which must be Phoenix, AZ (for a complex at Chandler, AZ); two (2) complexes may be located in MSAs 26 to 50; three (3) complexes may be located in MSAs 51 to 100, one of which must be Honolulu, Hawaii (for a complex at Waimea); and the three (3) remaining complexes must be located at least 75 nautical miles from the borders of the 100 largest MSAs or in any MSA not included in the 100 largest MSAs. Any location allotted for one range of MSAs may be taken from an MSA below that range.

(3)(i) Any non-GSO MSS licensee may at any time specify sets of geographic coordinates for feeder link earth station complexes with each earth station contained therein to be located at least 75 nautical miles from the borders of the 100 largest MSAs.

(ii) For purposes of subsection (c)(3)(i), non-GSO MSS feeder link earth station complexes shall be entitled to accommodation only if the affected non-GSO MSS licensee preapplies to the Commission for a feeder link earth station complex or certifies to the Commission within sixty days of receiving a copy of an LMDS application that it intends to file an application for a feeder link earth station complex within six months of the date of receipt of the LMDS application.

(iii) If said non-GSO MSS licensee application is filed later than six months after certification to the Commission, the LMDS and non-GSO MSS entities shall still cooperate fully and make reasonable efforts to resolve technical problems, but the LMDS licensee shall not be obligated to re-engineer its proposal or make changes to its system.

(4) LMDS licensees or applicants proposing to operate hub stations on frequencies in the 29.1-29.25 GHz band at locations outside of the 100 largest MSAs or within a distance of 150 nautical miles from a set of geographic coordinates specified under subsection (c)(2) or (c)(3)(i) shall serve copies of their applications on all non-GSO MSS applicants, permittees or licensees meeting the criteria specified in § 25.257(a). Non-GSO MSS licensees or applicants shall serve copies of their feeder link earth station applications, after the LMDS auction, on any LMDS applicant or licensee within a distance of 150 nautical miles from the geographic coordinates that it specified under subsection (c)(2) or (c)(3)(i). Any necessary coordination shall commence upon notification by the party receiving an application to the party who filed the application. The results of any such coordination shall be reported to the Commission within sixty days. The non-GSO MSS earth station licensee shall also provide all such LMDS licensees with a copy of its channel plan.

10. Section 101.113 is amended by revising paragraph (a) by deleting the Table entry for the 27,500 to 29,500 MHz frequency band and adding new lines to the Table to read as follows:

§ 101.113 Transmitter power limitations.

(a) * * *

Frequency Band (MHz)	Maximum allowable EIRP (1)*	
	Fixed (dBW)	Mobile (dBW)
27,500 to 28,350	55	
29,100 to 29,250	(7)	

* * *

(7) See §§ 101.113(c)

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APPENDIX C

A. Final Regulatory Flexibility Analysis of *First Report and Order*

As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Third Notice of Proposed Rulemaking in this proceeding (*Third NPRM*). The Commission sought written public comments on the proposals in the *Third NPRM*, including on the IRFA. The Commission's Final Regulatory Flexibility Analysis (FRFA) in this *First Report and Order* conforms to the RFA, as amended by the Contract With America Advancement Act of 1996, (CWAAA), Pub. L. No. 104-121, 110 Stat. 847 (1996).²¹³

I. Need for and Purpose of this Action:

In this decision, the Commission, adopts a band plan designating discrete spectrum segments for the Local Multipoint Distribution Systems ("LMDS"), Fixed Satellite Service (FSS) systems, and feeder links for certain Mobile Satellite Service ("MSS") systems in the 27.5-30.0 GHz band ("28 GHz band"). The Commission also adopts rules and procedures intended to facilitate the efficient use of this large spectrum segment among these three different types of services. The purposes of this action are to help launch two new broadband industries well-suited to compete in the domestic and global marketplace.

II. Summary of Issues Raised by the Public Comments in Response to the Initial Regulatory Flexibility Analysis:

No comments were filed in direct response to the IRFA. In general comments on the *Third NPRM*, however, the only licensee in the band, CellularVision, an LMDS small entity, *see infra*, believed that the plan proposed in the *Third NPRM* accommodated all competing interests for spectrum in the band. Furthermore, our proposal to grandfather CellularVision's existing system in the New York Primary Metropolitan Statistical Area, *see attached Report and Order* at ¶¶ 51-56, was supported by CellularVision as a reasonable plan to facilitate its existing operations as it phases into licensing under the new band segmentation scheme.

III. Description and Estimate of the Small Entities Subject to the Rules:

The Commission has not developed a definition of small entities applicable to GSO/FSS licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules applicable to Communications Services, Not Elsewhere Classified. This definition provides that a small entity is expressed as one with

²¹³ Subtitle II of the CWAAA is "The Small Business Regulatory Enforcement Fairness Act of 1996" (SBREFA), codified at 5 U.S.C. § 601 *et seq.*

\$11.0 million in annual receipts.²¹⁴

Estimates for GSO/FSS Satellite System Applicants for the 28 GHz Band

At present there are no GSO/FSS satellite licensees in the band and the Commission has not adopted any final service rules for satellite systems proposing to operate in the 28 GHz band. Therefore, there are no small businesses currently providing these types of broadband interactive services in the band. However, we have had a cut-off date for applications to be considered in the first GSO/FSS processing round.²¹⁵ There are a total of thirteen applications currently on file proposing to provide GSO/FSS services in the band. Eight of these systems propose global systems. Five systems propose regional coverage. We acknowledge that couple of these applications are start-up companies and we assume, that there may be the development of new satellite systems in this frequency band that may qualify as small entities pursuant to the SBA's definition.

Estimates for NGSO/FSS System Applicant in the Band

At present there are no NGSO/FSS satellite licensees in the 28 GHz band and we have not adopted any final service rules for such satellite systems proposing to operate in the band. Therefore, there are no small businesses currently providing these services in the band. However, we have had a cut-off date for applications to be considered in the first GSO/FSS processing round. Currently there is only one NGSO/FSS application on file. We assume, that there may be the development of new satellite systems in this frequency band that may qualify as small entities pursuant to the SBA's definition.

Estimates for NGSO/MSS Systems with feeder links in the 28 GHz Band

At present there are two licensed NGSO/MSS systems proposing feeder links for their systems, *see infra Report and Order* ¶ 21, in the 28 GHz band. We assume, that there may be the development of new satellite systems in this frequency band that may qualify as small entities pursuant to the SBA's definition.

Estimates for LMDS

The rules adopted in this *Report and Order* will apply to any company which chooses to apply for a license in the new services. In addition, the new rules impact fixed microwave licensees, some of whom requested that the Commission institute a channeling plan in the 28

²¹⁴ 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) Code 4899.

²¹⁵ *See Ka-Band Satellite Applications Accepted For Filing: Cut-Off Established for Additional Applications*, Public Notice, Report No. SPB-20, Release No. DA 95-1689, July 28, 1995.

GHz band to set standards for point-to-point microwave equipment manufacturers. With regard to both the traditional point-to-point entities and the Local Multipoint Distribution Service (LMDS), the Commission has not developed a definition of small entities applicable to such licensees. The SBA definitions of small entity for LMDS are the definitions applicable to radiotelephone companies and to pay television services. The definition of radiotelephone companies provides that a small entity is a radiotelephone company employing fewer than 1,500 persons.²¹⁶ The definition of a pay television service is one which has annual receipts of less than \$11 million.²¹⁷ Since the Regulatory Flexibility Act amendments were not in effect until the record in this proceeding was closed, the Commission was unable to request information regarding the potential number of small businesses interested in LMDS and is unable at this time to determine the precise number of potential applicants which are small businesses.

The size data provided by the SBA does not enable us to make a meaningful estimate of the number of telecommunications providers which are small entities because it combines all radiotelephone companies with 500 or more employees.²¹⁸ We therefore used the 1992 Census of Transportation, Communications, and Utilities, conducted by the Bureau of the Census, which is the most recent information available. This document shows that only 12 radiotelephone firms out of a total of 1,178 such firms which operated during 1992 had 1,000 or more employees.²¹⁹ Therefore, a majority of LMDS entities providing radiotelephone services could be small businesses under the SBA's definition. Likewise, the size data provided by the SBA does not enable us to make a meaningful estimate of the number of cable and pay television providers which are small entities because it combines all such providers with revenues of less than \$11 million.²²⁰ We therefore used the 1992 Census of Transportation, Communications, and Utilities, (Table 2D), conducted by the Bureau of the Census, which is the most recent information available. This document shows that only 36 of 1,788 firms providing cable and pay television service have a revenue of greater than \$10 million. Therefore, the vast majority of LMDS entities providing video distribution could be small businesses under the SBA's definition.

²¹⁶ 13 C.F.R. § 121.201, *Standard Industrial Classification (SIC) Code 4812*.

²¹⁷ *Id.*, SIC Code 4841.

²¹⁸ U.S. Small Business Administration 1992 Economic Census Employment Report, Bureau of the Census, U.S. Department of Commerce, SIC Code 4812 (radiotelephone communications industry data adopted by the SBA Office of Advocacy).

²¹⁹ U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Transportation, Communications, and Utilities, UC92-S-1, Subject Series, Establishment and Firm Size, Table 5, Employment Size of Firms: 1992, SIC Code 4812 (issued May 1995).

²²⁰ *Id.*, SIC 4841.

However, in the *Third NPRM*,²²¹ we proposed to define a small business as an entity that, together with affiliates and attributable investors, has average gross revenues for the three preceding years of less than \$40 million. We have not yet received approval by the SBA for this definition because the service rules for LMDS have not been finalized. A definition of small point-to-point entities have not yet received approval by the SBA because such entities have not as yet been subject to competitive bidding procedures.

We assume, for purposes of our evaluations and conclusions in this FRFA, that nearly all of the LMDS licensees will be small entities, as that term is defined by the SBA. We note that in the accompanying Fourth Notice of Proposed Rulemaking, we ask whether eligibility of LECs and cable companies, who enjoy a monopoly or near-monopoly in their service areas, be restricted with regard to the LMDS license in their area, in order to encourage competition. Many of the competitors using LMDS to compete with LECs or cable companies could be small businesses.

With regard to traditional point-to-point microwave entities, the same analysis for small radiotelephone entities as made above applies to these entities. In the *Report and Order*, the Commission declines to specify a channeling plan for point-to-point entities.²²² It is the Commission's opinion that retaining maximum system design flexibility for LMDS licensees within their service areas precludes our specifying a point-to-point channeling plan. Entities interested in providing point-to-point service may seek other spectrum or may become LMDS licensees and configure their systems as they choose. In addition, such entities may lease spectrum, or seek partitioning or disaggregation opportunities from LMDS licensees. Moreover, the traditional point-to-point microwave equipment manufacturing industry could seek to establish standards for its members to use in the 28 GHz band. Accordingly, this Report and Order does not provide direct relief requested by, e.g., the Telecommunications Industry Association, which represents fixed microwave entities, the majority of whom may be small businesses.

Another category of small entities affected by this Report and Order are those operating in the 17.5-19.5 GHz frequency band. These entities are fixed point-to-point microwave entities of many subcategories. The same analysis for these entities as made for traditional fixed microwave entities made above applies to these entities (a definition of small point-to-point entities has not been submitted for approval by the SBA because such entities

²²¹ *In the Matter of Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services and Suite 12 Group Petition for Pioneer's Preference*, CC Docket No. 92-297, 11 F.C.C. Rcd. 53 (1995) ("*Third NPRM*"), para. 188.

²²² Section III(H), *supra*.

have not as yet been subject to competitive bidding procedures). The Report and Order does not change the Commission's treatment of these entities, but it adds potential additional satellite operators in the band with which the entities will have to coordinate in the future. The Commission has coordination procedures in effect; should they prove inadequate in the future, we will reconsider the issue at that time.

IV. Summary of Projected Reporting, Recordkeeping and Other Compliance Requirements:

There are some reporting requirements imposed by the *Report and Order*. In some instances, it is likely that the entities filing the reports will require no professional skills for the preparation of such requests. In other cases, the services of persons with technical or engineering expertise may be required to prepare the reports. First, in one band segment, a satellite licensee is required to notify the one existing licensed LMDS operator, CellularVision, of its launch date six months prior to the satellite's launch date.²²³ It is also required to provide, upon CellularVision's request, updates on the satellite's status.²²⁴ Such a request is reasonable of CellularVision. At this time, it is not clear how many potential GSO/FSS licensees this will effect. Second, in another shared band segment, we require LMDS licensees to serve copies of their application on all NGSO/MSS applicants. At this time, it is not clear how many LMDS entities will be participating. Currently there are only two NGSO/MSS licensees who will be using this band for feeder links. Feeder links for a third NGSO/MSS system could possibly also be accommodated in this band. Fourth, we require NGSO/MSS feeder link earth stations to specify a set of geographic coordinates for the location of these earth stations, 15 days after the release of a public notice announcing the commencement of LMDS auctions. Finally, we require one NGSO/MSS licensee to provide their feeder link earth station locations to the GSO/FSS licensees. At this time, it is not clear how many potential GSO/FSS licensees this will effect.

V. Steps Taken to Minimize the Economic Impact on Small Entities:

The Commission adopts a band plan that facilitates the accommodation of all proposed systems in the 28 GHz band. We believe this plan is a reasonable accommodation of all competing interests in this new band segment, including small entities. The band plan along with the Fourth Notice of Proposed Rulemaking for the 31 GHz band, *infra* IRFA, provides both small entities and larger businesses the same opportunity to develop and operate viable systems within the band, and initiate competitive services. Our band plan also accords, CellularVision, the only licensee in the band, flexibility during the implementation phase of

²²³ *Supra* ¶ 54.

²²⁴ *Id.*

the band plan.

VI. Significant Alternatives Considered and Rejected:

The Commission considered and rejected several alternatives to the band plan we adopted.²²⁵ The Commission considered various band segmentation plans over the last several months with the goal of accommodating the various divergent proposals made in response to the band plan proposed in the *Third NPRM*.²²⁶ For example, we considered plans which ultimately proved to require difficult inter-service sharing rules and to not completely support interactivity of LMDS systems.²²⁷ We also considered a band plan that designated 1000 MHz each for GSO/FSS and LMDS service. That plan, however, would have divided LMDS among three non-contiguous spectrum segments.²²⁸ This option was not acceptable to the potential LMDS service providers, including small providers, because, they argued, it would have significantly decreased spectrum efficiency for LMDS, resulting in increased cost and delay in offering both subscriber and hub equipment.²²⁹ We also considered two band plans that designated GSO/FSS systems with less than 1000 MHz.²³⁰ These options were unacceptable to the GSO/FSS applicants because, they argued, any of these plans would result in a significant loss of system capacity and revenue.²³¹ Such loss and capacity could affect potential small entities. Another plan, resulting from a GSO/FSS applicant's proposal, was also considered. It would have designated a total of 1010 MHz to GSO/FSS applicants and 985 MHz to LMDS, but required sharing of 135 MHz between GSO/FSS and LMDS.²³² However, the mutually acceptable sharing principles required to implement this plan were not developed by the LMDS and GSO/FSS parties.²³³ We were also unable to successfully propose sharing criteria.

²²⁵ See *supra* ¶¶ 38-40.

²²⁶ See *ex parte* submission filed by the International Bureau to William F. Caton, Acting Secretary, (Feb. 6, 1996) for diagrams of Commission Band Plan Options 1, 2, 2A, 2B, 3(a), 4 and 5.

²²⁷ *Supra* note 76.

²²⁸ *Supra* note 77.

²²⁹ *Supra* note 78.

²³⁰ *Supra* note 79.

²³¹ *Supra* note 80.

²³² *Supra* note 81.

²³³ *Supra* note 82.

In March 1996, NASA was also asked to undertake an immediate study to assess whether its space services and LMDS could share spectrum below 27.5 GHz.²³⁴ NASA concluded three weeks later that no rules acceptable to all parties could be drafted which would guarantee protection of NASA space services from harmful interference.²³⁵ NASA also concluded that coordination with other space service systems in the band from other administrations would make this a difficult option to implement effectively.

One alternative of not adopting a band segmentation plan for this spectrum is the preclusion of LMDS service or satellite service in the 28 GHz band. In the *Third NPRM* we tentatively concluded that denying one or the other of the proposed services for the band was not in the public interest and that both proposed services bring the promise of competition and innovative services to the nation's infrastructure. Moreover, preclusion of either service potentially affects small businesses on both the satellite side and the LMDS side.

VIII. Report to Congress

The Commission shall send a copy of this Final Regulatory Flexibility Analysis, along with this *Report and Order*, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801(a)(1)(A). A copy of this FRFA will also be published in the Federal Register.

B. Initial Regulatory Flexibility Analysis

As required by Section 603 of the Regulatory Flexibility Act,²³⁶ the Commission has prepared an Initial Flexibility Analysis (IRFA) of the expected significant economic impact on small entities by the policies and rules proposed in this Fourth Notice of Proposed Rulemaking. Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Fourth NPRM provided in section (VI)(C).

I. Reason for Action

This Fourth Notice of Proposed Rulemaking (4th NPRM) requests comment on two issues: (1) whether the Commission should designate, on a primary protected basis, the 31.0-

²³⁴ *Supra* note 83.

²³⁵ *Supra* note 84.

²³⁶ 5 U.S.C. § 603.

31.3 GHz (31 GHz) band to Local Multipoint Distribution Service (LMDS); and (2) whether the Commission should restrict eligibility of local exchange carriers (LEC) and cable operators to hold LMDS licenses in the geographic areas they serve.

With regard to the first issue, the Commission determines that a further NPRM is necessary to accommodate a variety of LMDS system designs, services, and transmission media in the adjacent 28 GHz band. The additional spectrum would facilitate interactive systems, thus providing new and innovative communications services for residential and business users, including small businesses. Moreover, the additional spectrum potentially could benefit small businesses unable to participate in competitive bidding for licenses because additional spectrum not needed by a LMDS licensee could potentially be leased to smaller businesses. The 31 GHz band currently is licensed only on a secondary basis, and has few incumbents. Nevertheless, the Commission requests comment on whether there are any methods of accommodating these services.

With regard to the second issue, the current record of this proceeding was developed prior to the enactment of the Telecommunications Act of 1996. One of the key objectives of the Act is to expedite the introduction of competition to incumbent LECs and cable companies. In carrying out this mandate, the Commission believes it important to obtain specific comment on how its policies towards LMDS eligibility would best promote the competitive objectives of the Act. In addition, the comments received after the close of the record in this proceeding, including comments from small entities such as WebCel, convince us that further comment is warranted.

II. Objectives

The objective of this Notice is to request public comment on the proposals made herein for the efficient licensing of LMDS services, for the development and implementation of a new technology to provide innovative telecommunications services to the public.

III. Legal Basis for Proposed Rules

The authority for this action is the Administrative Procedure Act, 5 U.S.C. § 553; and sections 4(i), 4(j), 301, 303(r) of the Communications Act of 1934 as amended, 47 U.S.C. §§ 145, 301, and 303(r).

IV. Description and Estimate of Small Entities Subject to the Rules

The regulations on which the Commission seeks comment, if adopted, would apply to any small entity seeking a LMDS license. In addition, the regulations would impact small entities who are incumbent licensees in the 31.0-31.3 GHz frequency band.

The SBA definitions of small entity for LMDS are the definitions applicable to radiotelephone companies and to pay television services. The definition of radiotelephone companies provides that a small entity is a radiotelephone company employing fewer than 1,500 persons.²³⁷ The definition of a small pay television service is one which has annual receipts of less than \$11 million.²³⁸ In the Final Regulatory Flexibility Analysis for the *Report and Order, supra*, we were unable to make a meaningful estimate based on the 1992 Census Bureau data.

Likewise, we believe that the entities who are incumbent licensees in the 31.0-31.3 GHz frequency band may also be comprised of a majority of small entities. Such licensees are public safety entities, the majority of whom are municipalities or other local governmental entities. The SBA data base does not include governmental entities. We are required to estimate the number of such entities with populations of less than 50,000 that would be affected by our new rules.²³⁹ There are 85,006 governmental entities in the nation.²⁴⁰ This number includes such entities as states, counties, cities, utility districts and school districts. There are no figures available on what portion of this number has populations of fewer than 50,000. However, this number includes 38,978 counties, cities and towns, and of those, 37,566, or 96 percent, have populations of fewer than 50,000.²⁴¹ The Census Bureau estimates that this ratio is approximately accurate for all governmental entities. There are twenty-seven (27) incumbent licensees in the 31.0-31.3 GHz band. Accordingly, we estimate that 96 percent, or 25 to 26 of these licensees, are small entities.

We request comment on the description and the number of small entities that are significantly impacted by this proposed rule.

V. Reporting, Recordkeeping, and Other Compliance Requirements

The proposals under consideration in this NPRM would not involve any reporting or recordkeeping requirements.

Incumbent licensees in the 31.0-31.3 GHz band would have new compliance requirements vis-a-vis LMDS licensees. Our rules provide that licensees therein operate on a

²³⁷ 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) Code 4812.

²³⁸ 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) Code 4841.

²³⁹ RFA at Section 601(5).

²⁴⁰ 1992 Census of Governments, Bureau of the Census, U.S. Department of Commerce.

²⁴¹ *Id.*